

## Management of A Case of Fibro-epithelial Hyperplasia of Gingiva

### Abstract:

Fibroepithelial hyperplasia/fibroma is an exophytic growth which occurs due to any reactive or chronic inflammatory condition of the gingiva by plaque, calculus, overhanging margins, trauma and dental appliances. These can cause discomfort to the patient and often causes difficulty in oral hygiene maintenance. This case report presents a case of a fibro-epithelial hyperplasia in a 37 years old female, who presented with a localized diffuse type of gingival enlargement in the left maxillary posterior teeth region. Based on clinical and histopathological evaluation the diagnosis of fibro-epithelial hyperplasia was made. The patient was then kept on regular follow-up and no recurrence of the lesion could be appreciated till date.

**Key-words:** Gingival enlargement, Fibro epithelial hyperplasia, Fibroma, Gingivectomy

### Introduction:

Gingival enlargement is the increase in the size of the gingiva which is a common feature of most of the gingival diseases. It can be either hypertrophy which is referred as the increase in the size of the gingiva or it can be hyperplasia which is the increase in the number of cells. Clinically we cannot distinguish amongst them, so it is commonly referred as gingival enlargement or gingival overgrowth.[1]

Oral mucosa is constantly subjected to external and internal stimuli and therefore a variety of diseases manifests that ranges from developmental, reactive, and inflammatory to neoplastic.[2] Reactive hyperplasias are lesions of fibrous connective tissue that most often occur in oral mucosa followed by an injury or chronic irritation. They appear due to exuberant repair (granulation tissue and scar) following injury. Because nerve tissue does not proliferate with reactive hyperplastic tissue, these lesions are usually painless but may become secondarily ulcerated when traumatized during mastication or brushing. Treatment generally consists of surgical excision and removal of the irritating factor.[3]

In gingiva these lesions usually appear in the interdental papilla due to chronic irritation associated with plaque and

calculus, caries, foreign bodies, overhanging or irregular margins of restorations, traumatic biting and ill-fitting dentures etc.[4] They have a variable growth rate with chances of occurrence at any age group and occur most frequently in women.[5] These lesions could cause an esthetic problem if occurs in anterior regions along with discomfort to the patient by interfering with mastication, speech and also impedes effective plaque control.[4]

### Case Report:

A 37 years old female patient reported to the Department of Periodontology with a chief complaint of swollen gum in the upper left back teeth region since last 2 months. On intraoral

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examination swelling of the gingival tissue i.r.t. #27 could be seen which is slowly progressive in size since last 2 months. Patient gave a history of toothbrush trauma 2 months back while brushing. The swelling was painless but causing local discomfort and difficulty in oral hygiene practice as well as affecting her speech.

On recording history, patient revealed that she had similar type of growth in the same region 3 years back but the etiology was unidentified which was surgically excised then, but the details of the same couldn't be traced. Patient is currently undergoing orthodontic treatment. Apart from all these, no relevant medical, dental or family history was reported by the patient. Extraoral examination revealed no gross facial asymmetry, non-palpable lymph nodes and in TMJ also no abnormalities were detected.

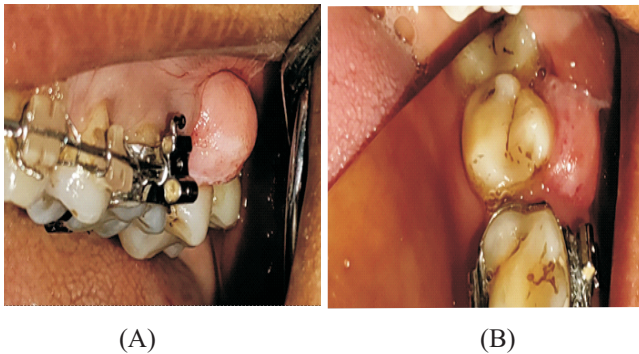


Fig 1: Gingival overgrowth i.r.t. 27 (A) Lateral view (B) Occlusal view

**Management:**

With the available data from our examination and investigations a provisional diagnosis of localised gingival fibromatosis was made and a treatment plan was proposed which comprised of scaling followed by the gingivectomy of the gingival growth.

At first, full mouth scaling was done and patient was recalled after one week. Blood investigation were also done which were under normal range. On the day of surgery, first intraoral and extra oral asepsis was done following which adequate localised anaesthesia was achieved using 2% lignocaine with 1:80,000 adrenaline. External bevel gingivectomy (Fig 2A) was performed i.r.t. #27 on the buccal aspect to excise the gingival growth which is extended to the surround healthy tissue by 1 mm (Fig 2B).

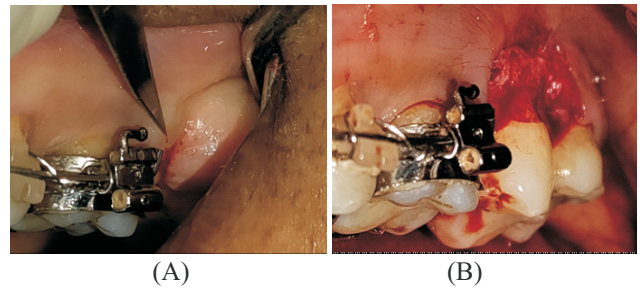


Fig 2: Excision of the growth. (A) External bevel incision, (B) presence of underlying granulation tissue.

Following excision of the tissue, curettage was done to remove the granulation tissue. After curettage buccal alveolar bone was found to be exposed (Fig 3A). So full thickness followed by partial thickness buccal flap was raised and coronally advanced along with osteoplasty (Fig 3B). Adequate irrigation with diluted betadine was done and then sutures were given and periodontal dressing was placed.

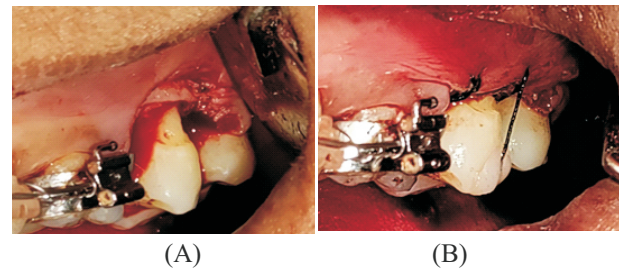


Fig 3: After debridement (A) exposure of the alveolar bone (B) osteoplasty was done followed by coronally advanced flap and sutures was placed.

Post-operative instructions were given to the patient and medications (Amoxicillin-Clavulanic acid 625mg- 1 tab thrice daily for 5 days, Metronidazole 400 mg- 1 tab thrice daily for 5 days, Aceclofenac 100 mg- 1 tab twice daily for 5 days, Pantoprazole 40 mg- 1 tab once daily for 5 days) were also prescribed. Patient was also taught the oral hygiene methods and 0.12% chlorhexidine mouthwash was prescribed. Excised tissue measured 12mm x 9 mm (Fig 4A and 4B) was sent for histopathological evaluation. The patient was recalled after 7 days for follow-up.

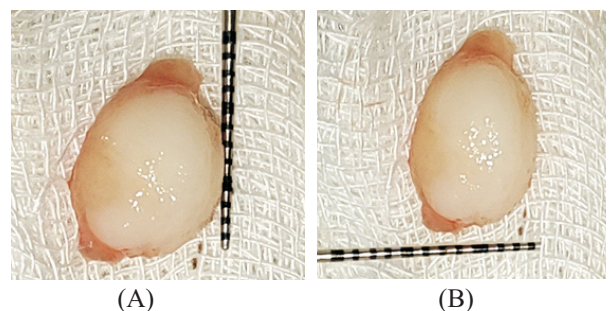


Fig 4: excised mass (A) 12mm in length (B) 9 mm in width

Histopathological section (Fig 5A and 5B) revealed stratified squamous epithelium with elongated rete ridges. The connective tissue stroma showed dense collagen fibres bundles arranged in disorganised manner in association with fibroblasts and numerous vascular channels engorged with RBCs. Dense chronic inflammatory cells were present predominantly consisting of lymphocytes. These findings led to the final diagnosis of fibro epithelial hyperplasia.

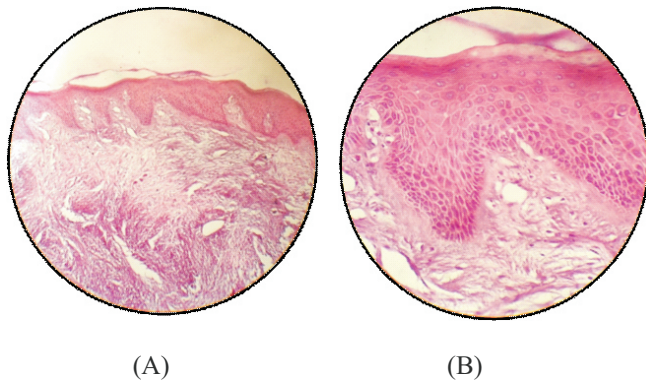


Fig 5: Histopathological section (A) 10X view (B) 40X view

Periodontal dressing and sutures were removed after one week. The 7<sup>th</sup> day post operative result (Fig 6A) showed uneventful healing gingival tissue though some recession has occurred i.r.t. 27. Post operative pain was absent but sensitivity to hot and cold stimulus of grade 8 on VAS is present as reported by the patient. So, after post-operative debridement of the root surface, 10% strontium chloride was applied over the exposed root surface and CEJ and a desensitizing tooth paste was also prescribed. Oral hygiene instructions were reinforced to the patient and she was recalled at regular intervals for re-evaluation. On the 2<sup>nd</sup> post operative week (Fig 6B), recession was found to be increased but the tissue was healed and sensitivity has reduced to grade 3 as per VAS but she did not use the toothpaste as the sensitivity was reduced. 3 months post operative result (Fig 6C) showed no recurrence of the growth and the recession has not increased since then and also sensitivity was absent.

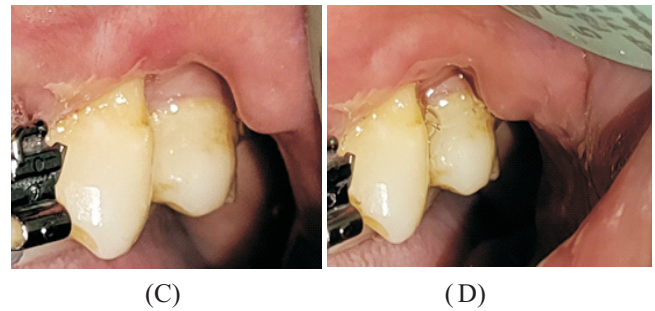
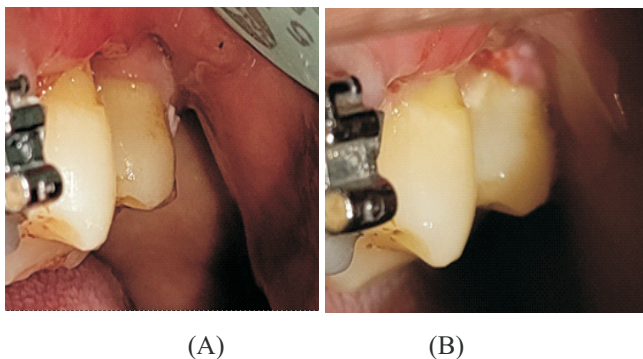


Fig 6: Post-operative results (A) 1 week post-operative (B) 2 weeks post-operative (C) 3 months post-operative (D) 6 months post-operative

**Discussion:**

Reactive hyperplasias commonly occur in oral mucosa secondary to injury.[3] It is also known as focal fibrous hyperplasia, oral fibroma or as fibromatosis fibroma.[6] These are merely fibrous overgrowths, not true neoplasms. They occur more frequently in females than in males between third and fourth decade of life.[7] In our case also the patient was 37 years old female patient who presented with fibroma on the buccal aspect of 27. Patient gave a positive history of tooth brush trauma which can be the etiology of the enlargement but presence of plaque and calculus was also there which might have aggravated the enlargement.

It has been reported that any trauma or irritation due to calculi, overhanging margins & restorations, foreign bodies, chronic sharp tooth cusp biting, and sharp spicules of bones and overextended borders of appliances can cause these types of lesions.[7] In our case patient gave a positive history of tooth brush trauma which can be the etiology for the enlargement but presence of plaque and calculus was also there which might have aggravated the enlargement. The presence of plaque and calculus could be attributed the orthodontic band also.

Gingival enlargements can produce difficulty in oral hygiene maintenance leading to accumulation of plaque and thus, can further worsen the situation. So surgical intervention along with proper and adequate oral hygiene practices were considered.[8] As in our case also patient was finding difficulty to brush that particular area and we went for surgical excision of the lesion.

External bevel gingivectomy of the lesion was performed along with 1 mm of surrounding healthy tissue to make sure any remnant of the etiology is not left behind which can cause the recurrence of the lesion. According to Dulala R et al.[9], insufficient attached gingiva results in gingival recession due



to the pull of the muscles in alveolar mucosa. In our case the enlargement was diffuse type, so we had to excise the maximum attached gingiva. This explains that though attempts were made to avoid the recession by coronally advancing the flap and suturing it with anchoring sutures, recession still occurred.

Due to recession, CEJ was exposed which caused the sensitivity. Bharali J et al.[10] conducted a study in which she reported that application of strontium chloride along with diode laser resulted in decreased sensitivity in patients with recession. Though we did not use the diode laser, 10% strontium chloride was applied for 3 mins with an applicator tip and followed by washing with water and this procedure resulted in decreased sensitivity over a period of 2 weeks.

Ananthakrishna et al.[11] in his study have concluded that by an exchange with calcium in the dentin, strontium deposits are produced resulting in formation and precipitation of strontium apatite complex. This type of precipitation or recrystallization occurs during 3 minutes after application which reduce the diameter of open dentinal tubules.

Literature suggests that fibrous hyperplasias are highly collagenous and it may contain mild to moderate chronic inflammatory cell infiltrate.[3] Jain M et al.[7] reported in his case series of fibro-epithelial hyperplasia that the histopathological section revealed hyperplastic parakeratinized stratified squamous epithelium with underlying connective tissue stroma which showed haphazard bands of collagen fibres with proliferating fibroblast and few blood vessels were seen. These findings are also present in the histopathologic evaluation done in our case which suggests that it is a case of fibroepithelial hyperplasia.

### Conclusion:

Our oral cavity is more often being subjected to different kinds and levels of trauma or irritation. Any persistent trauma or irritation over a long period or any aggravating local factor may act as an etiology for this type of fibro-epithelial hyperplastic gingival growth. Complete excision of the lesion is recommended for its treatment followed by histopathologic evaluation to confirm the diagnosis of the lesion. They are usually non recurrent type unless and until the etiological factor or local aggravating factors are not present.

A unique finding that could be noted through the present case report is the use of strontium chloride in the treatment of hypersensitivity. Although no published data on the use of this desensitizing agent alone could be found but further research can be done on more number of patients.

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